

An interesting Oak in New York City with brief notes
on *Quercus Richteri* Baen.

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A curious Oak has recently come to the attention of the writer in Fort Washington Park, Manhattan. The specimen grows very close to the drive projected along the Hudson River and now in course of construction. Thanks to the interest of Mr. G. D. Clarke, consulting landscape architect, and of the officials of the Department of Parks efforts are being made to preserve this tree.

This Oak is slightly more than 22 inches in diameter and about 55 feet tall. It is located approximately one quarter of a mile north from the foot of the slope crowned by the Pavilion on Riverside Drive, which on the city maps stands almost in line with West 190th Street, across Fort Tryon Park.

The bark at the bole does not materially differ from the bark of specimens of the red oak (*Quercus borealis*) of like size. The main limbs arise 20 feet above the ground and tend to be pendulous in the lowest tiers, wholly ascending above. The crown is open, nearly dome-shaped.

The leaves are borne in lax whorls at the extremity of the glabrous branchlets. Their texture, except where altered as explained below, is exactly that of *Q. borealis*. They are dark green with more or less of a bloom beneath as usual with the leaves of that species. A juvenile covering of minute fascicled and stellate hairs is suggested by the few persistent trichomes of adult leaves at the margin of the blade. Leaves of late growth, however, are subglabrous to glabrous on unfolding.

The size of the leaf suggests the Red Oak's but the outline is not the usual one of the species. The upper half to two thirds of the blade shows some 5 acuminate, long and narrow lobes, 1-5-toothed, the teeth long-aristate. The sinuses are mostly narrow, irregular in outline, some triangular with the opposite margins overlapping, others more or less openly quadrangular, the bottom of the sinus almost parallel with the midrib. The lower half or third tends to be abruptly constricted, the blade-tissue in some leaves barely exceeding the thickness of the mid-

rib and of the primaries: here the lobes are much shorter, distinctly irregular as to depth, outline and indentation. In brief, the blade is subflabellate, obovate in outline, much narrowed at the base.

The irregularity of the veins matches that of the blade. In the upper half to two thirds the primaries resemble in the main those of *Q. borealis*. Below they are coarser; they usually start at a narrow angle from the midrib, then turn sharply outwards to end in the tip of the lobe. This peculiar design is matched by the equally peculiar rough tissue of the blade; not infrequently this tissue wears down to translucent patches like the calloused margin of the blade. On the spurs of the twigs and branches shallowly lobed or nearly unlobed leaves occur. Only occasional leaves are not constricted at the base.

The wood of the twig is dark- to olive-brown usually with a grayish glossy cast, quite brittle. The bud, seen in September, is like that of *Q. borealis* but may have fewer scales. The fruit also has the earmarks of the Red Oak's. The cupule is cup-shaped, short-pedunculate, glabrous inside, covered with about 10 rows of triangular scales puberulous at first, later glabrous or sparingly scurfy-hairy at the margins. About $\frac{1}{4}$ of the acorn is inclosed by the cupule.

The possibility of the tree under discussion being a hybrid between the Red and the Pin Oak (for which *Q. Richteri* Baen. is believed to be valid) may be suggested but the writer believes none of its characters warrant this assumption. Cultivars from manifestly good species in *Fagus*, *Acer*, *Tilia*, etc., exhibit aberrant patterns of venation and leaf such as are also found in certain hybrids of *Quercus*, *Ulmus*, *Philadelphus*, *Sorbus*, *Crataegus*, *Malus*, *Amygdalus*, *Aesculus* and *Tilia*, and occasionally, in single leaves of most any plant. The habit of a tree is apt to show individual variations, and is always modified by the immediate environment. In distinctly pubescent species (e.g., *Tilia platyphyllos*) leaves of late growth are normally glabrous or subglabrous. The discussion could easily be extended noticing, for instance, that an Oak of mixed descent (e.g., *Q. runcinata*) may bear fruits in fair amount, and that these fruits are like those of one parent (*Q. maxima*), hybridism showing almost exclusively in the leaf which thus may tend to assume diagnostic value. The widest divergence of opinions obtains in

these matters. The balance of probability, however, indicates that we are dealing with a teratological case involving an otherwise pure strain of the Red Oak.

To dispose of this tree in nomenclature is not without difficulty. It manifestly does not deserve rank as species, subspecies, variety or form in the orthodox taxonomic sense. Its presentation as an horticultural variety seems to be not wholly objectionable. The specimen belongs to a species well known in cultivation, grows in a public park, and is a precise match of such accepted varieties as *Quercus robur* var. *heterophylla* and *Acer platanoides* var. *laciniatum*. It may be said that the use of horticultural variety is unbecoming whenever the specimen on which the variety is established is not in cultivation. The objection has some merit, but it assumes for certain that our Oak will not be cultivated and reproduced. This much, of course, does not belong to the record as proved. The writer, therefore, announces: *Quercus borealis* Michx var. (hort.) nov. **flabellata** — Lamina plerumque basi abrupte irregulariter constricta dentata, figura quoadmodum flabellata (Blade usually abruptly and irregularly constricted dentate at the base, in outline more or less flabellate).—Type in the Herbarium of the N. Y. Botanical Garden, leg. Leon Croizat, August 31, 1936. *Sizes*: Leaf up to 9 inches long, the petiole about $1\frac{1}{4}$ of an inch, the entire median part of the blade not over $2-2\frac{1}{2}$ inches broad, with lobes up to $2\frac{1}{2}$ inches long, 2 inches broad. Acorn to 1 inch long, $\frac{3}{4}$ of an inch broad, inclosed about $\frac{1}{4}$ by the cupule; cupule up to $\frac{1}{4}$ of an inch deep.

Baenitz presented (Allg. Bot. Zeitschr. 9: 85 et seq., 1903) *Quercus Richteri* for *Q. borealis* var. *maxima* × *Q. palustris*. The discussion that justifies the presentation of the binomial is convincing so far as the cited text reads, and *Q. Richteri* has found place in standard works, in some of which it is briefly described. The writer, thanks to the kindness of Dr. E. J. Palmer, has seen the specimens of *Q. Richteri* preserved in the herbarium of the Arnold Arboretum. On the strength of an isotype (Dr. C. Baenitz, Herbarium Dendrologicum No. —, Flora Silesiaca, 1/10–12/10 1902; without fruit) *Q. Richteri* is justifiably reduced to a synonym of *Q. coccinea* Moench. Three specimens (Juli 1903 leg. Herrenhausen; 28.v.1904 "Original Baum"; 28.v. 1904 leg. C. K. Schneider, Scheitniger Park Breslau, "Original

Baum") from the "Herbarium Dendrologicum C. K. Schneider" confirm that *Q. Richteri* is synonymous with *Q. coccinea*. It should be remarked that on the last cited sheet appears the mss. note "Sieht aus wie (*Q.*) *coccinea*" in which, it seems, C. K. Schneider very mildly states the essential fact. The two American collections represent wholly distinct trees. One (Kellog, Herbarium Americanum, October 11, 1907, Osage, Mo.) appears to the writer inextricable from certain critical forms of the group *Q. rubra-Q. palustris* L. The other specimen (E. J. Palmer, Plants of Missouri, No. 26358) is a very interesting sample. The leaf suggests *Q. ellipsoidalis* E. J. Hill, but the acorn and cupule resemble the fruit of *Q. runcinata* Engelm., consequently that of *Q. maxima* (Marsh.) Ashe. This Oak may well represent a hybrid but, unfortunately, can not remain under *Q. Richteri* because the binomial must follow the type.

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